INDEX TO VOL. 45 PLATING 1958

Page

A

Abrasive Belts, Taking the Guesswork Out of Grinding and Polishing with, W. K. Seward ... 39
Abrasive Wet Blasting for Cleaning and Finishing Metals, A. R. Burman ... 45
Accelerated Corrosion Tests, AES Project No. 15 (Summary) ... 347
AES At Its Half-Century Milepost, J. P. Nichols (Editorial) ... 699
AES
- AES Boards and Committees Chairmen, 1958–1959 ... 949
- AES Liaison with Other Societies ... 1054
- AES's 57 Branch Delegations Accredited ... 56
- Annual Report ... 503
- Blue Ridge Branch Installed as AES's 58th Branch ... 537
- Boards and Committees 1957–1958 ... 518
- Branch Delegates ... 516
- Branch Directory ... 96, 520
- Branch Membership Competition ... 57
- Bylaws Extractions ... 376
- Conventions
  - Cincinnati Convention and the AES Ladies, F. M. Hoffman ... 754
  - Convention and Exposition Chairmen ... 949
  - Educational Program, 45th AES Annual Convention ... 370
  - 45th Annual Convention Program ... 55, 166, 258, 368, 526
  - 45th Convention Story ... 54, 164, 746
  - Golden Jubilee Convention/Exposition ... 856, 951, 1055
  - 45th Annual Convention Passes in Review, The ... 746
  - 45th AES Annual Convention Pictures ... 646
  - Golden Jubilee Convention/Exposition ... 1246
- Detroit Branch Stag Day ... 956
- Detroit's 20th Annual Educational Session National Officers' Night ... 58
- Empire State Regional ... 652
- Fifth International Conference on Electrodeposition and Metal Finishing—Speakers ... 953, 1157
- Financial Report ... 653
- Fiscal Year Change ... 376
- Industrial Finishing Exposition Exhibitors 1959 ... 954
  - Supplement ... 1157
- Interim Meeting Reporter (1958) ... 24, 134
- Interim Meeting Reporter (1959) ... 1248
- Milestones of AES, J. P. Nichols ... 855, 955 1052, 1152, 1242
- Milwaukee's Infant Organic Division Matured, L. L. Diveley ... 257
- National Officers—1958–1959 ... 643
- Paper Awards, 45th Annual Convention ... 648
- Southern Tier Outing ... 1050

AES Research
- AES Research in 1957–1958 ... 343
- Research Program Holds Fruitful Two-Day Washington Conference, F. Ogburn ... 136
- AES Research Program, A Progress Report, J. D. Thomas ... 345
- Research Projects
  - AES Project No. 12—Cleaning and Preparation of Metals for Electroplating (Summary) ... 345
  - AES Project No. 13—The Nature, Cause and Effect of the Porosity in Electrodeposits (Summary) ... 346
  - AES Project No. 14—The Influence of Physical Metallurgy and Mechanical Processing of the Basis Metal on Electroplating (Summary) ... 346
  - AES Project No. 15—Accelerated Corrosion Tests (Summary) ... 347
  - AES Project No. 16—Mechanism of Electrodeposition (Summary) ... 347
  - AES Project No. 17—Microthrowing Power (Summary) ... 347
  - AES Project No. 18—Mechanical Finishing of Metal Surfaces (Summary) ... 348
  - AES Research Project No. 12—Cleaning and Preparation of Metals Prior to Electroplating: Effect of Oxide Films X. Experimental Results, H. B. Linford and D. O. Feder ... 349
  - AES Research Project No. 12—Cleaning and Preparation of Metals Prior to Electroplating: Effect of Oxide Films. XI. Effect of Oxides on the Adhesion of Electroplates, H. B. Linford and A. Venkateswarlu ... 728
  - AES Research Project No. 18—Mechanical Finishing of Metal Surfaces (Bibliography) ... 380
- Aircraft Finishing N. I. Gaynes ... 1133
- Alkaline Nickel Plating, E. B. Saubestre ... 479

Alloys
- Recent Developments in Gold Alloy Plating, E. A. Parker ... 631
- Control of Lead-Tin Alloy Plating Baths, A Practical Apparatus for the, R. L. Garrett ... 1139

Aluminum, New Developments in Anodizing, R. F. Hafer ... 623
ASME Handbook—Metals Engineering—Processes, R. W. Bolz, Editor (Books) ... 554

Page

American Society for Testing Materials 1957 Proceedings (Books) ... 825
American Society for Testing Materials, Semi-Annual Meeting Committee B-8, E. B. Saubestre ... 340, 1240
ASTM Standards, Supplements to Book of (Books) ... 289
Analysis for Zinc, Cadmium and Copper in Electroplating Waste Effluents, F. Stevens and L. E. Lancy ... 832
Anodizing Aluminum, New Developments in, R. F. Hafer ... 623
Anodizing Enters the Aircraft Field, Color, E. Delamater ... 1142
Antigalling Coatings and Lubricants for Titanium, E. L. White, P. D. Miller and R. S. Peoples (Books) ... 69
Antimony Plating on Steel and Zinc, G. R. Schaer, W. H. Safranek and C. L. Faust ... 139
Article References

Alloys
- Electrodeposition of Chromium-Molybdenum, S. C. Shome ... 80
- Electrodeposition of Tin-Zinc Alloys from Stannate-Complexone Solutions, A. E. Davies and R. M. Angles ... 290
- Electroplating from the Pyrophosphate Bath. 2. Electrodeposition of Alloys, T. L. Rama Char ... 290
- Electroplating 22 Karat Gold-Silver Alloy, R. E. Harr and A. G. Cafferty ... 290
- Protective Value of Tin-Nickel Alloy Deposits on Steel, The, F. A. Lowenheim, W. W. Sellers and F. X. Carlin ... 868
- Research and Development on Electrodeposition of New Chromium and Chromium-Alloy Plate, L. D. McGraw ... 80
- Some Problems Concerning the Theory of Electrodeposition of Alloys. I. Methods of Calculating the Potential Shift of Ionic Discharge Due to the Energy of Mixing on Formation of an Alloy, Yu. M. Polukarov and K. M. Gorbunova ... 191
- Some Problems Concerning the Theory of Electrodeposition of Alloys. II. Investigation of Shift of Potential of Ionic Discharge During Formation of an Alloy, Yu. M. Polukarov and K. M. Gorbunova ... 191
- Some Problems Concerning the Theory of Electrodeposition of Alloys. III. Conditions of the Relation of the Deposition Potential of Metals to the Energy Set Free During Formation of an Alloy, Yu. M. Polukarov and K. M. Gorbunova ... 191
- Structure of Electrodeposited Alloys, The. XI. Nickel-Zinc Alloys, E. Raub and F. Elser ... 869

Aluminum
- Thick Oxide Films on Aluminum Alloys, J. M. Kape ... 80
- Wave Forms of Electric Current in Anodic Oxidation of Aluminum by Oxalic Acid Process (Japanese), T. Ushioda, O. Yoshimura and T. Abe ... 620

Anodizing
- Anodizing Bath for Magnesium Alloys, M. W. Davies ... 1258
- Bright Anodizing by the Modified Erftwerk Process, R. Peek and A. W. Brace ... 620
- Chemically Brightened and Anodized Aluminum and Its Employment in Automobile Manufacture, F. Baumann and H. Neunzig ... 290
- Gold-Dyed Aluminum Uses in Russian Watches, A. J. Steiger ... 378
- Here Are Ten Steps in Black Anodizing Aluminum Die-Castings ... 1259
- Production and Properties of Opaque Coatings by Chromic Acid Anodizing, A. W. Brace and R. Peek ... 1259
- Studies in Bright Anodizing by the Ammonium Bifluoride-Nitric Acid Process, G. E. Gardam and R. Peek ... 290
- Studies of the Anodic Behavior of Aluminum. I. The Direction of Ionic Movement, J. E. Lewis and R. C. Plumb ... 1167
- Titanium-Tipped Anodizing Racks ... 378
- Titanium-Tipped Anodizing Work Racks Require No Stripping ... 719

Applications
- Nuts and Bolts: Plating to Prevent Seizure, W. B. Stephenson Jr. ... 978

Basis Metal
- Sintered Metals Approach Properties of Wrought Alloys ... 378

Brass
- High Speed Brass Plating in the Production of Brass-Coated Strip Steel, E. J. Roehl ... 1258

Cadmium
- Amino Acid Cadmium Plating Solutions for Ultra Strength Steel, P. N. Vlannes, S. W. Strauss and B. F. Brown ... 620
- Cadmium Plating: How to Avoid Embrittlement ... 556

Chromium
- Barrel Chromium Plating Continuous Bulk Processing, H. Mahlstedt ... 378

Chromium Electroplates ... 80
- Chromium Plating of Aluminum and Its Alloys, T. Zak, J. Erlich and K. Szmid ... 868
- Cold Chromium Plating in Russia, A. J. Steiger ... 620
- Evolution of Hydrogen During Deposition, C. P. Brittain and G. C. Smith ... 290
- Experimentation with Chemical and Electrochemical Removal of Chromium Plating From Copper (German) W. Schlittgen ... 868
- Finishing Pointers—Chromium Plating Thickness, J. B. Mohler ... 620
- Finishing Facilities for a Modern Railroad, G. W. Poll Jr. ... 556
- Low-Temperature Chromium Plating of Large Dies, M. E. Gol'dshtein ... 1076
- Mechanism of Porous Chromium Plating. Pt. A. Study of Porosity (Roumanian), I. Firoiu ... 378
- Peening Cuts Stresses in Plated Parts, W. W. Safee ... 378

Cleaning
- Detergents for Ultrasonic Cleaning, S. S. Frey ... 719
- Principles of Cleaning by Ultrasonics. Part II, The. H. B. Fried ... 556
- Principles of Cleaning by Ultrasonics, The, H. B. Fried ... 1075
- Some Aspects of Cleaning Prior to Metal Finishing, B. E. Whitehead ... 556
- Ultrasonic Cleanliness Improves Finish, Saves Time at Bearing Plant, A. R. McCloskey ... 189
- Ultrasonics Speed Meter Register Cleaning at Long Island Lighting, J. W. Dye and A. Howard ... 189

Coatings
- Flame-Spraying of Metals, D. E. J. Cunningham ... 620
- Introduction to Vacuum Metalizing, An, M. A. Self and J. Scharnberg ... 1075
- Selection and Use of Phosphate Coatings As Pretreatments for Organic Finishes, The, R. F. Drysdale ... 556

Control
- Effective Current Density, J. B. Mohler ... 80

Conversion Coatings
- How to Produce High Quality Zinc Chromate Coatings, J. Stella ... 868

Copper
- Acid Copper Plating of Aluminum, J. T. N. Atkinson ... 291
- Electrolytic Copper Plating from Ammoniacal Electrolyte for Local Protection of the Surface of Steel Articles in the Cementation (Carburization) Process, N. A. Marchenko ... 1167
- Grain Growth and Flecking in Electroplated Copper Caused by Cyclic Stress, H. Okubo and N. Nozaki ... 978

Corrosion
- Accelerated Corrosion-Resistance Tests on Chemically Passivated Electrodeposits of Zinc on Steel, T. Biestek ... 868
- Compatibility of Aluminum with Alkaline Building Products, C. J. Walton, F. L. McGeary and E. T. Englehart ... 189
- Corrosion and Water Treatment, G. G. Sindery ... 1075
- Corrosion Inhibition by Organic Amines, H. Kaesche and N. Hackerman ... 620
- Corrosion of Metal Surfaces in Tropical Climates (German), O. Marsch ... 556
- Corrosion of Zinc by Differential Aeration, G. Bianchi ... 719
- Corrosion of Zinc Plated Steel, R. H. Wolff ... 868
- Corrosion Resistance of Cobalt, R. S. Young ... 189
- Corrosion Resistance of Ductile Iron, The, F. L. LaQue ... 1258
- Corrosion Resistance of Five Stainless Alloys in Nitric Acid Containing Chloride, I. I. Tingley ... 868
- Fundamentals of Electrode Processes in Corrosion, M. Stern ... 80
- How the 200 Series Compares with 18-8 Stainless Steel, G. A. Sands and M. B. Keady ... 719
- Influence of Surface Pretreatment on the Atmospheric Oxidation of 2S, The, P. M. Aziz and H. P. Godard ... 189
- Inhibition of Titanium in Fuming Nitric Acid, J. B. Rittenhouse and C. A. Papp ... 868
- Kinetic Study of Acid Corrosion Cadmium, A, H. Weaver Jr. and C. C. Lynch ... 291
- Long-Range Field Burial Study Probes Underground Corrosion ... 1258

INDEX TO VOL. 45 PLATING 1958

Page

A

Abrasive Belts, Taking the Guesswork Out of Grinding and Polishing with, W. K. Seward ... 39
Abrasive Wet Blasting for Cleaning and Finishing Metals, A. R. Burman ... 45
Accelerated Corrosion Tests, AES Project No. 15 (Summary) ... 347
AES At Its Half-Century Milepost, J. P. Nichols (Editorial) ... 699
AES
- AES Boards and Committees Chairmen, 1958–1959 ... 949
- AES Liaison with Other Societies ... 1054
- AES's 57 Branch Delegations Accredited ... 56
- Annual Report ... 503
- Blue Ridge Branch Installed as AES's 58th Branch ... 537
- Boards and Committees 1957–1958 ... 518
- Branch Delegates ... 516
- Branch Directory ... 96, 520
- Branch Membership Competition ... 57
- Bylaws Extractions ... 376
- Conventions
  - Cincinnati Convention and the AES Ladies, F. M. Hoffman ... 754
  - Convention and Exposition Chairmen ... 949
  - Educational Program, 45th AES Annual Convention ... 370
  - 45th Annual Convention Program ... 55, 166, 258, 368, 526
  - 45th Convention Story ... 54, 164, 746
  - Golden Jubilee Convention/Exposition ... 856, 951, 1055
  - 45th Annual Convention Passes in Review, The ... 746
  - 45th AES Annual Convention Pictures ... 646
  - Golden Jubilee Convention/Exposition ... 1246
- Detroit Branch Stag Day ... 956
- Detroit's 20th Annual Educational Session National Officers' Night ... 58
- Empire State Regional ... 652
- Fifth International Conference on Electrodeposition and Metal Finishing—Speakers ... 953, 1157
- Financial Report ... 653
- Fiscal Year Change ... 376
- Industrial Finishing Exposition Exhibitors 1959 ... 954
  - Supplement ... 1157
- Interim Meeting Reporter (1958) ... 24, 134
- Interim Meeting Reporter (1959) ... 1248
- Milestones of AES, J. P. Nichols ... 855, 955 1052, 1152, 1242
- Milwaukee's Infant Organic Division Matured, L. L. Diveley ... 257
- National Officers—1958–1959 ... 643
- Paper Awards, 45th Annual Convention ... 648
- Southern Tier Outing ... 1050

AES Research
- AES Research in 1957–1958 ... 343
- Research Program Holds Fruitful Two-Day Washington Conference, F. Ogburn ... 136
- AES Research Program, A Progress Report, J. D. Thomas ... 345
- Research Projects
  - AES Project No. 12—Cleaning and Preparation of Metals for Electroplating (Summary) ... 345
  - AES Project No. 13—The Nature, Cause and Effect of the Porosity in Electrodeposits (Summary) ... 346
  - AES Project No. 14—The Influence of Physical Metallurgy and Mechanical Processing of the Basis Metal on Electroplating (Summary) ... 346
  - AES Project No. 15—Accelerated Corrosion Tests (Summary) ... 347
  - AES Project No. 16—Mechanism of Electrodeposition (Summary) ... 347
  - AES Project No. 17—Microthrowing Power (Summary) ... 347
  - AES Project No. 18—Mechanical Finishing of Metal Surfaces (Summary) ... 348
  - AES Research Project No. 12—Cleaning and Preparation of Metals Prior to Electroplating: Effect of Oxide Films X. Experimental Results, H. B. Linford and D. O. Feder ... 349
  - AES Research Project No. 12—Cleaning and Preparation of Metals Prior to Electroplating: Effect of Oxide Films. XI. Effect of Oxides on the Adhesion of Electroplates, H. B. Linford and A. Venkateswarlu ... 728
  - AES Research Project No. 18—Mechanical Finishing of Metal Surfaces (Bibliography) ... 380
- Aircraft Finishing N. I. Gaynes ... 1133
- Alkaline Nickel Plating, E. B. Saubestre ... 479

Alloys
- Recent Developments in Gold Alloy Plating, E. A. Parker ... 631
- Control of Lead-Tin Alloy Plating Baths, A Practical Apparatus for the, R. L. Garrett ... 1139

Aluminum, New Developments in Anodizing, R. F. Hafer ... 623
ASME Handbook—Metals Engineering—Processes, R. W. Bolz, Editor (Books) ... 554

Page

American Society for Testing Materials 1957 Proceedings (Books) ... 825
American Society for Testing Materials, Semi-Annual Meeting Committee B-8, E. B. Saubestre ... 340, 1240
ASTM Standards, Supplements to Book of (Books) ... 289
Analysis for Zinc, Cadmium and Copper in Electroplating Waste Effluents, F. Stevens and L. E. Lancy ... 832
Anodizing Aluminum, New Developments in, R. F. Hafer ... 623
Anodizing Enters the Aircraft Field, Color, E. Delamater ... 1142
Antigalling Coatings and Lubricants for Titanium, E. L. White, P. D. Miller and R. S. Peoples (Books) ... 69
Antimony Plating on Steel and Zinc, G. R. Schaer, W. H. Safranek and C. L. Faust ... 139
Article References

Alloys
- Electrodeposition of Chromium-Molybdenum, S. C. Shome ... 80
- Electrodeposition of Tin-Zinc Alloys from Stannate-Complexone Solutions, A. E. Davies and R. M. Angles ... 290
- Electroplating from the Pyrophosphate Bath. 2. Electrodeposition of Alloys, T. L. Rama Char ... 290
- Electroplating 22 Karat Gold-Silver Alloy, R. E. Harr and A. G. Cafferty ... 290
- Protective Value of Tin-Nickel Alloy Deposits on Steel, The, F. A. Lowenheim, W. W. Sellers and F. X. Carlin ... 868
- Research and Development on Electrodeposition of New Chromium and Chromium-Alloy Plate, L. D. McGraw ... 80
- Some Problems Concerning the Theory of Electrodeposition of Alloys. I. Methods of Calculating the Potential Shift of Ionic Discharge Due to the Energy of Mixing on Formation of an Alloy, Yu. M. Polukarov and K. M. Gorbunova ... 191
- Some Problems Concerning the Theory of Electrodeposition of Alloys. II. Investigation of Shift of Potential of Ionic Discharge During Formation of an Alloy, Yu. M. Polukarov and K. M. Gorbunova ... 191
- Some Problems Concerning the Theory of Electrodeposition of Alloys. III. Conditions of the Relation of the Deposition Potential of Metals to the Energy Set Free During Formation of an Alloy, Yu. M. Polukarov and K. M. Gorbunova ... 191
- Structure of Electrodeposited Alloys, The. XI. Nickel-Zinc Alloys, E. Raub and F. Elser ... 869

Aluminum
- Thick Oxide Films on Aluminum Alloys, J. M. Kape ... 80
- Wave Forms of Electric Current in Anodic Oxidation of Aluminum by Oxalic Acid Process (Japanese), T. Ushioda, O. Yoshimura and T. Abe ... 620

Anodizing
- Anodizing Bath for Magnesium Alloys, M. W. Davies ... 1258
- Bright Anodizing by the Modified Erftwerk Process, R. Peek and A. W. Brace ... 620
- Chemically Brightened and Anodized Aluminum and Its Employment in Automobile Manufacture, F. Baumann and H. Neunzig ... 290
- Gold-Dyed Aluminum Uses in Russian Watches, A. J. Steiger ... 378
- Here Are Ten Steps in Black Anodizing Aluminum Die-Castings ... 1259
- Production and Properties of Opaque Coatings by Chromic Acid Anodizing, A. W. Brace and R. Peek ... 1259
- Studies in Bright Anodizing by the Ammonium Bifluoride-Nitric Acid Process, G. E. Gardam and R. Peek ... 290
- Studies of the Anodic Behavior of Aluminum. I. The Direction of Ionic Movement, J. E. Lewis and R. C. Plumb ... 1167
- Titanium-Tipped Anodizing Racks ... 378
- Titanium-Tipped Anodizing Work Racks Require No Stripping ... 719

Applications
- Nuts and Bolts: Plating to Prevent Seizure, W. B. Stephenson Jr. ... 978

Basis Metal
- Sintered Metals Approach Properties of Wrought Alloys ... 378

Brass
- High Speed Brass Plating in the Production of Brass-Coated Strip Steel, E. J. Roehl ... 1258

Cadmium
- Amino Acid Cadmium Plating Solutions for Ultra Strength Steel, P. N. Vlannes, S. W. Strauss and B. F. Brown ... 620
- Cadmium Plating: How to Avoid Embrittlement ... 556

Chromium
- Barrel Chromium Plating Continuous Bulk Processing, H. Mahlstedt ... 378

Chromium Electroplates ... 80
- Chromium Plating of Aluminum and Its Alloys, T. Zak, J. Erlich and K. Szmid ... 868
- Cold Chromium Plating in Russia, A. J. Steiger ... 620
- Evolution of Hydrogen During Deposition, C. P. Brittain and G. C. Smith ... 290
- Experimentation with Chemical and Electrochemical Removal of Chromium Plating From Copper (German) W. Schlittgen ... 868
- Finishing Pointers—Chromium Plating Thickness, J. B. Mohler ... 620
- Finishing Facilities for a Modern Railroad, G. W. Poll Jr. ... 556
- Low-Temperature Chromium Plating of Large Dies, M. E. Gol'dshtein ... 1076
- Mechanism of Porous Chromium Plating. Pt. A. Study of Porosity (Roumanian), I. Firoiu ... 378
- Peening Cuts Stresses in Plated Parts, W. W. Safee ... 378

Cleaning
- Detergents for Ultrasonic Cleaning, S. S. Frey ... 719
- Principles of Cleaning by Ultrasonics. Part II, The. H. B. Fried ... 556
- Principles of Cleaning by Ultrasonics, The, H. B. Fried ... 1075
- Some Aspects of Cleaning Prior to Metal Finishing, B. E. Whitehead ... 556
- Ultrasonic Cleanliness Improves Finish, Saves Time at Bearing Plant, A. R. McCloskey ... 189
- Ultrasonics Speed Meter Register Cleaning at Long Island Lighting, J. W. Dye and A. Howard ... 189

Coatings
- Flame-Spraying of Metals, D. E. J. Cunningham ... 620
- Introduction to Vacuum Metalizing, An, M. A. Self and J. Scharnberg ... 1075
- Selection and Use of Phosphate Coatings As Pretreatments for Organic Finishes, The, R. F. Drysdale ... 556

Control
- Effective Current Density, J. B. Mohler ... 80

Conversion Coatings
- How to Produce High Quality Zinc Chromate Coatings, J. Stella ... 868

Copper
- Acid Copper Plating of Aluminum, J. T. N. Atkinson ... 291
- Electrolytic Copper Plating from Ammoniacal Electrolyte for Local Protection of the Surface of Steel Articles in the Cementation (Carburization) Process, N. A. Marchenko ... 1167
- Grain Growth and Flecking in Electroplated Copper Caused by Cyclic Stress, H. Okubo and N. Nozaki ... 978

Corrosion
- Accelerated Corrosion-Resistance Tests on Chemically Passivated Electrodeposits of Zinc on Steel, T. Biestek ... 868
- Compatibility of Aluminum with Alkaline Building Products, C. J. Walton, F. L. McGeary and E. T. Englehart ... 189
- Corrosion and Water Treatment, G. G. Sindery ... 1075
- Corrosion Inhibition by Organic Amines, H. Kaesche and N. Hackerman ... 620
- Corrosion of Metal Surfaces in Tropical Climates (German), O. Marsch ... 556
- Corrosion of Zinc by Differential Aeration, G. Bianchi ... 719
- Corrosion of Zinc Plated Steel, R. H. Wolff ... 868
- Corrosion Resistance of Cobalt, R. S. Young ... 189
- Corrosion Resistance of Ductile Iron, The, F. L. LaQue ... 1258
- Corrosion Resistance of Five Stainless Alloys in Nitric Acid Containing Chloride, I. I. Tingley ... 868
- Fundamentals of Electrode Processes in Corrosion, M. Stern ... 80
- How the 200 Series Compares with 18-8 Stainless Steel, G. A. Sands and M. B. Keady ... 719
- Influence of Surface Pretreatment on the Atmospheric Oxidation of 2S, The, P. M. Aziz and H. P. Godard ... 189
- Inhibition of Titanium in Fuming Nitric Acid, J. B. Rittenhouse and C. A. Papp ... 868
- Kinetic Study of Acid Corrosion Cadmium, A, H. Weaver Jr. and C. C. Lynch ... 291
- Long-Range Field Burial Study Probes Underground Corrosion ... 1258

Art. Ref. (Continued) — Page

New Corrosion Index Shows Nation's Rust Pattern ... 1167
Prevention of Localized Corrosion in Sulfuric Acid Handling Equipment, G. A. Nelson ... 557
Reaction of Certain Chlorinated Hydrocarbons with Aluminum, A. C. Hamstead, G. B. Elder and J. C. Canterbury ... 719
Research on the Influence of Ultrasonic Waves on Metallic Corrosion, A. Reggiori and T. Songa ... 291
Water Treatment for Domestic Hot-Water Supplies, C. C. Hanson ... 1075

Educational
Electrochemistry and the Plater, F. G. Brune ... 80
Electrochemistry and the Plater. Part III., F. G. Brune ... 557

Electrodeposition
Electroplating from the Pyrophosphate Bath. 1. Electrodeposition of Single Metals, T. L. Rama Char ... 189
Investigation of the Electrodeposition of a Metal on a Passivated Surface, L. I. Kadaner and A. Kh. Masik ... 869
Research on the Electrodeposition of Zirconium, Niobium and Vanadium from Nonaqueous Media, A. P. Beard, D. H. Ahmann and F. J. Shipko ... 557

Electropolishing
Control of Optimal Condition for Electrolytic Polishing and Some New Developments in Baths, I. Epelboin ... 620
Electropolishing Silicon in Hydrofluoric Acid Solutions, D. R. Turner ... 978
Electropolishing Less Commonly Electropolished Metals, J. F. Jumer ... 1258
Electropolishing—What, How and Why, J. F. Jumer ... 1075, 1167

Embrittlement
New Technique Rids Plated Steel of Hydrogen Embrittlement, H. H. Johnson, E. J. Schneider and A. R. Troiano ... 1075

Engineering
Anodizing Racks Tell Large Automatic: This Tank Next, R. A. Nyquist ... 1258
How to Make and Install an Air-Agitation System ... 1258
Lighting for Metal Plating and Finishing, W. Robinson ... 1258
Plating Room Layout, G. R. Kentta ... 1167
Reinforced Plastics in the Plating and Acid Treatment Industries ... 978
Western Electric's Modern Metal Finishing Plant, A. W. Cagle and E. J. St. Amand ... 1075

Equipment
Automatic Loader Speeds Plating of Auto Parts, R. L. Everstine ... 291

Etching
New Process for Regenerating Copper Etch Baths ... 719

Finishing
Nature of Mechanically Polished Metal Surfaces: The Surface Deformation Produced During the Abrasion and Polishing of Zinc, The, L. E. Samuels and G. R. Wallwork ... 189
Surface Finishing Formed Steel Shapes, G. H. Poll Jr. ... 189
Third National Coated Abrasive Machinery Show in Review, E. A. Blount ... 978

Generation
Motor Generators for Electroplating, H. E. Head ... 189

Inhibition
Nitrite Inhibition of Corrosion: Some Practical Cases, T. P. Hoar ... 620

Maintenance
"Bitugel"—New Anti-Corrosive Bitumen Composition, E. A. Duligal ... 868
New Inorganic Cement Mortar for Sulfuric Acid Service, A. R. S. Mercer ... 1258
Reinforced (Faced-Brick Resinous Cements) Linings. (A Report of NACE Technical Committee) ... 557

Management
That Big Step from Supervisor to Executive, A. M. Cooper ... 620

Measurement
A New Approach to the Measurement of Coating Thickness by Fluorescent X-Ray Absorption, F. A. Achey and E. J. Serfass ... 620

Metal Coating
Metal Spraying—Development and Application, S. J. Oechsle Jr. ... 189

Miscellaneous
Annual Conference on Hard Chromium (French) ... 291
Behavior of Some Base Materials During Electrolytic Plating. Pt. 1. (German), H. Hefele ... 621
Better Metallographic Techniques—Polishing by Vibration, E. L. Long and R. J. Gray ... 1158
Better Metallographic Techniques—Polishing Hard Metals Electro-Mechanically, J. M. Dickinson ... 1258
Chemical Milling, C. H. Lundquist ... 620
Chemical Milling: Where and How. 1. Where to Use Chemical Milling, J. Sullivan. 2. How to Do Chemical Milling, K. Clark ... 620
Compressed Air and Its Applications in Metal Finishing, J. Robertson ... 190, 291, 378
Corrosion Protection of Base Metals with Chromium Plating (German), H. W. Dettner ... 291
Damage by Uncontrolled Shot Blasting, K. Kornfeld ... 378
Ductile Stainless Work Hardens for Extra Strength ... 868
Experiences in Electroplating and Related Processes, J. Chadwick ... 1075
"Fido" The Watch Dog—An Electronic Safety Device for Periodic Reverse Plating, B. T. Neill and K. E. Langford ... 1167
Finishing Research: A New Laboratory ... 1258
Five Rules to Follow in Designing for Plating ... 1075
How to Plate Selectively with a Stencil Mask, R. A. Botosan ... 868
How to Set Up Sensible Tolerances, I. A. De Grote ... 378
Influence of Crystal Face on the Surface Properties of Metals, A. T. Gwathmey ... 190
Institute of Metal Finishing—Annual Conference, Torquay, April 1958 ... 868
Institute of Metal Finishing Holds 1958 Conference, R. Pinner ... 868
Measuring Loads of Solid Flat Steel Parts, G. C. Field ... 557
Mechanical Springs—Materials, Finishes and Embrittlement, L. F. Spencer ... 190, 378
New Method for the Precise Evaluation of the Capacity of Plating Installations, A, D. O. Bartl and O. Mudroch ... 557
New Tax Law and What it Means to the Job Shop Plater, The, G. David Zeile ... 1258
New Way to Select Wear-Resistant Materials, A, J. R. Driear ... 190
Plastics ... 979
Plated Stainless Steel Sheet (French) ... 621
Pointing Out Pluses of Fine-Grain Plating ... 978
Preparation of Protective Coatings by Electrophoretic Methods, A. C. Werner ... 80
Protecting Metals at High Temperatures, A. F. Hofstatter ... 719
Protection of Molybdenum from Oxidation at Elevated Temperatures, D. E. Couch, H. Shapiro, J. K. Taylor and A. Brenner ... 1075
Salaries of Metallurgists, W. Morrison ... 378
Science for Electroplaters. 39. Organic Acids, L. Serota ... 1075
Self-Adhesive Tapes in Metal Finishing—A Review of Properties and Applications ... 1258
Successful Ultrasonic Metal Finishing Assured by Understanding Basic Ground Rules, P. M. Platzman ... 719
Thermodiffusion Plating of Metals, N. A. Izgaryshev ... 191

Nickel
Bright Nickel Plating, A. M. Ozerov ... 1167
Bright Nickel Plating Research on the Influence of Organic Addition Agents, E. Bertorelli, I. Bellobono and C. Bordonali ... 557
Corrosion-Resistance of Electroless Nickel ... 190
Effect of Addition Agents on the Plating of Nickel, A. Goswami ... 621
Efficient Drag-Out Recovery in Barrel Nickel Plating, R. J. Maling ... 978
Electroforms Feature New Type of Nickel ... 719
Influence of Chloride Ions on the Solution of a Nickel Anode, A. V. Pomosov and L. I. Gurevich ... 557
Influence of Materials Containing Divalent Sulphur on the Process of Nickel Plating, The, A. V. Pamfilov and R. M. Morgat ... 1259
Multilayer Nickel Coatings ... 868, 978
Stress-Free Nickel Plating ... 621
Thermal Shock Resistant Nickel Plating on Copper, L. Missel ... 1167
Throwing Power in Efco-Udylite Bright-Nickel Solutions, P. Meuldijik ... 1259
Vapor Plating of Nickel, L. W. Owen ... 978
Water—Its Use in the Plating Shop, L. F. Spencer ... 978

Non-Conductors
Practical Metalizing of Technical Ceramics, R. C. Steffey ... 80

Organics
Art of Color Matching, The, J. C. Holle ... 1167
Color Matching in Mass Production, W. Beach ... 81
Dip Painting and Flow Coating. Some Possibilities Considered, M. Reeves ... 979
Epoxide Resins Versus Corrosion, L. M. Barakan and G. L. E. Wild ... 868
Epoxy Coatings: Performance and Application Data, F. Grushoff ... 291
Epoxy Resins in Corrosion-Resistant Applications, P. A. Dunn ... 868
Heat Transfer Through Coated Metal Surfaces, R. P. Lee ... 621
How Radiation Affects Six Organic Coatings, L. A. Horrocks ... 621
How to Apply Plastisols by the Dip-Coat Method ... 719
Improving Paint Adhesion on Phenolic Surfaces ... 1167
Introduction to Wash Primers, An, E. S. Beck ... 291, 379
Mechanisms of Wash Primer Actions ... 1258
Methods of Electrostatic Coating, J. Sedlacsik Jr. ... 81
Motor Body Finishing, A. A. B. Harvey ... 1075
New Paint Shop at Briggs Motor Bodies Ltd., Southampton ... 190
New Plastic Stays Strong at High Temperature ... 558
Organic Finishing of Aluminum and Its Alloys, L. F. Spencer ... 1076
Plastisol Coating of Plating Racks and Tanks. A Job for Specialists, E. Blount ... 81
Properties and Applications of Cold-Cured Epoxy Resin-Based Coatings ... 868
Reinforced Plastics for Corrosion Control, W. A. Severance ... 1258
Reducing Spray Painting Costs, J. A. Weed ... 1167
Review of Airless and Electrostatic Spray Painting, A, A. A. B. Harvey ... 558
Science for the Coatings Technologist. Part VIII. Green Pigments, E. S. Beck ... 81, 190
Science for the Coating Technologist. Part IX. Metallic Pigments, E. S. Beck ... 621, 719
Science for the Coatings Technologist. Part X. Paint Additives—Anti-Settling Agents, E. S. Beck ... 979
Science for the Coatings Technologist. Part XI. Paint Additives: Driers and Anti-Skinning Agents, E. S. Beck ... 1167, 1258
Survey of Paint Application Methods, A, E. A. Blount ... 190
Which Organic Coating?, H. B. Rothenberg ... 81

Phosphating
How Grit Blasting Improves Phosphate Coatings, J. Knanishu ... 558
Phosphating Treatments. A Comprehensive Patent Literature Survey. Pt. 1 ... 621
Phosphating Treatments. A Comprehensive Patent Literature Survey, Part II ... 719
Phosphating Treatments. A Comprehensive Patent Literature Survey. Part III ... 868
Phosphating Treatments. A Comprehensive Patent Literature Survey. Part IV, E. C. Tinsley ... 979
Phosphating Treatments. A Comprehensive Patent Literature Survey. Part V, E. C. Tinsley ... 1076
Phosphating Treatments. A Comprehensive Patent Literature Survey, Part VI, E. C. Tinsley ... 1258
Phosphating Treatments. A Comprehensive Patent Literature Survey. Part VII, E. C. Tinsley ... 1258
Selection and Use of Phosphate Coatings as Pre-Treatments for Organic Finishes, The, R. F. Drysdale ... 378

Physical Properties
Factors Affecting Residual Stress in Electrodeposited Metals. A Critical Evaluation. Part 1, J. B. Kushner ... 621
Wear of Metals, F. T. Barwell ... 621
Wear Resistance: Is Melting Point the Key?, H. A. Uncked ... 558

Pickling
A.R.D.E. Chemical Smoothing Process for Steel, The ... 621
New Ways to Descale Titanium ... 1258

Powders
Electrolytic Iron Powders—Production and Properties, W. M. Shafer and C. R. Harr ... 979

Preparation
Analysis of Films on Copper by Coulometric Reduction, R. H. Lambert and N. J. Trevoy ... 291
Applications for Alkaline Descaline Cleaners, E. R. Jorczyk ... 1258
Brighter Prospects for Brass and Copper, P. H. Margulies ... 291
Copper Degreasing Before Bright Nickel Plating, A. Reymond and Cie ... 1258
Finishing Pointers. Strike Cleaning, J. B. Mohler ... 558
Firm Adherent Plating for Aluminum, J. C. Withers and P. E. Ritt ... 291
Rinsing Type of Rust Removers, M. Svoboda and B. Knapek ... 291

Purification
Technique for Purifying Electrolytic Solutions, A, D. A. Vermilyea ... 719

Racks
Plating and Anodizing Rack Design, H. Kraus ... 1076

Rhodium
Rhodium Plating of Commutators ... 621

Silver
Hardness of Electrodeposited Silver, The, G. Heilmann ... 1076
Modern Silver Plating Practice, L. Greenspan ... 868
Permanently Hard Silver Electrodeposits, J. Fischer ... 1076
Silver Coatings ... 868

Specifications
Which Coating at High Temperature?, G. D. Oxx Jr. ... 378

(Art. Ref., Continued) Page

Standards
Anodised Aluminum. A Review of B.S. 1615: 1958 1078
Stress
Factors Affecting Residual Stress in Electrodeposited Metals. A Critical Evaluation, J. B. Kushner 719, 868, 979
Internal Stresses in Electrodeposits. I. Stresses in Zinc Deposits, K. M. Gorbunova and O. S. Popova 191
Surface Treatment
Chemical Polishing, L. F. Spencer 558
Chemical Polishing. Part II, L. F. Spencer 621
Spray Cleaning, Pickling and Phosphating. Study of Operating Conditions, A. J. Steiger 558
Testing
Accelerated Corrosion Testing of Chromium-Plated Articles: Sulphur Dioxide Tests, J. Edwards 378
Acetic Acid Salt Spray Test, The, J. H. Hooper 378
Electromagnetic Test Measures Effect of Shot Peening, P. M. Unterweiser 868
Rapid Detection and Location of Corrodibility in Protective Coatings on Metal (French), G. Blet 1258
Simplified Method of Preparing Solutions of Glycerol and Water for Humidity Control, A, J. V. Braun and J. D. Braun 558
Sulphur Dioxide Test, The 1259
Thickness of Lead Deposits—Measurements by Means of Beta Rays, G. Gabrielson and K. Ljunggren 378
Uncommon Valency Ions and the Difference Effect, M. E. Straumanis 868
Theory
Composition of Copper Complexes in Cuprocyanide Solutions, The, H. B. Rothbaum 81
Concentration of Hydrogen in Nickel Under Hydrogen Ion Bombardment, The, J. Morrison and J. J. Lander 558
Determination of Sulphuric Acid in Copper Electroplating Baths, K. A. Wickham and L. Moore 979
Determination of Sulphuric Acid in Copper Electroplating Baths with the Sodium Carbornate-Methyl Orange Reagent, L. Moore 979
Electrochemical Polarization. III. Further Aspects of the Shape of Polarization Curves, M. Stern 81
Electroplating of Aluminum, The, H. W. Dettner 979
Fundamentals of the Theory of Electrodes and Galvanic Cells, E. Lange 979
On the Twin Structure of Nickel Films Electrodeposited on Single Crystals of Copper, S. Ogawa, J. Mizuno, D. Watanabe and F. E. Fujita 979
Pores and Pitting of Plated Deposits 1259
Processes of Electrochemical Corrosion, G. V. Akimov 1259
Some Testing Cells for the Study of Electroplating Devices, J. K. Skwirzynski and M. Huttly 81
Tin
Progress of Bright Tin Plating 378
Titanium
Anodic Oxidation of Titanium, Pt. 1, H. Nagasaki and H. Ishida 378
Chemical Polishing of Titanium Alloys, S. Okamoto 81
Surface Treatment of Titanium, The, H. Richaud 190
Waste
Chromium Plating From the Trivalent Bath, M. R. Zell 378
Destruction of Cyanide Wastes by Electrolytic Chlorination, J. T. Byrne, W. S. Turnley and A. K. Williams 1259
How to Dispose of Cyanide Plating Wastes, B. H. Robbins 190
Planning and Operating an Industrial Waste Disposal Plant, G. J. O'Kane 1076
Planning and Operating an Industrial Waste Disposal Plant for a New Plating Facility, G. J. O'Kane 868
Recovery or Disposal of Plating Wastes, R. J. Keating 1259
Science for Electroplaters. Acidification of Cyanide Waste, L. Serota 80
Science for Electroplaters. 31. Cyanide Waste Treatment—Chlorination, L. Serota 190
Science for Electroplaters. 32. Cyanide Waste Treatment—Hypochlorites, L. Serota 378
Science for Electroplaters. 34. Cyanide Removal by Ion Exchange, L. Serota 558

B

Barrel Finish Eggs, How to, W. Biebel 31
Bibliographic Survey of Corrosion, 1954-1955, NACE Publication (Books) 676
Bibliography on Metal Finishing Wastes, 1957, C. F. Gurnham and D. G. Foulke 851
Biebel, W.
How to Barrel Finish Eggs 31

Page

Biography
Biebel, W. 34
Bromstead, E. J. 1045
Brown, H. 150
Candee, E. T. 38
Clarke, W. W. 256
Clauss, R. J. 150
Cohen, B. 1132
Delamater, E. 1144
Delgiudice, T. 1138
Dvorin, R. 831
Evangelides, H. A. 498
Faust, C. L. 143, 1037
Feder, D. O. 359
Frant, M. S. 160, 738
Garland, R. C. 850
Gaynes, N. F. 1135
Garrett, R. L. 850, 1141
Girard, R. J. 1238
Glaser, M. A. 1045
Hafer, R. F. 627
Laney, L. E. 834
Lee, J. H. 1047
Linford, H. B. 359, 733
Loebenstein, J. 742
Logozzo, A. W. 630
Koeckritz, E. P., Jr. 251
Marzano, C. 944
McTague, R. F. 246
Milne, D. 846
Mueller, H. W. 940
Parker, E. A. 635
Pasley, R. H. 1131
Perez, M. 244
Raub, E. 492
Rothstein, S. 835
Safranek, W. H. 143, 1037
Sample, C. H. 727
Saubestre, E. B. 479, 936, 1227
Saur, R. L. 1233
Sawyer Jr., T. 850
Schaer, G. R. 143
Seward, W. K. 44
Stevens, W. F. 834
Van Deusen, W. P. 156
Venkateswarlu, A. 733
Weinberg, M. 150
Zahn, E. A. 254
Books
American Society for Testing Materials 1957 Proceedings 825
ASME Handbook—Metals Engineering—Processes, R. W. Bolz, Editor 554
Antigalling Coatings and Lubricants for Titanium, E. L. White, P. D. Miller and R. S. Peoples 69
Bibliographic Survey of Corrosion, 1954-1955, NACE Publication 676
Ceramic Reinforced Alloys and Plated Cermets, M. T. Curran 756
Coated Abrasives—Modern Tool of Industry 924
Descaling and Cleaning of Titanium and Titanium Alloys, D. W. Stough and others 924
Development of Electroplating Processes to Eliminate Hydrogen Embrittlement in High-Strength Steel, J. E. Chilton 825
Development of a Nondestructive Test for Evaluation of Adhesion of Electrodeposits on Steel as in Silver-plated Aircraft Bearings, A. L. Walters and S. A. Wenk 289
Effective Thickness of Chromium Plate on the Sensitivity of Magnetic Particle Inspection, W. Steindorf and B. Cohen 676
Engineering Materials Handbook, C. L. Mantell 188
Engineering Study of Vacuum Metallizing, University of Denver, An 1124
Guide to Electrodeposited Coatings and Other Surface Treatments for Metals, D. E. Couch and J. W. Hensely 924
High Temperature Protective Coatings for Magnesium, C. R. Fitzgibbon, E. H. Miller and M. A. Glaser 554
Investigation of the Applicability of High Frequency Sound Waves (Ultrasonics) for Cleaning of Precision Parts, O. E. Mattiat and P. P. Zapponi 188
Light Metals and Alloys B-7—ASTM Standards 756
Metal Cleaning Bibliographical Abstracts, ASTM 90-D 69
Methods for Emission Spectrochemical Analysis, ASTM 69
Phosphating Treatments—Patent Literature Survey, E. C. Tinsley 825
Pitting in Ferrous Systems: An Annotated Bibliography, M. Benton 756
Protective Shot Peening of Propellers: Part 3—Fatigue and Distortion, R. F. Broderick, Lesselles and Associates (Books) 69
Radioisotopes 554
Recovery of Embrittled Cadmium Plated Steel, The, H. H. Johnson, E. J. Schneider and A. R. Troiano 1074
Specification and Tests for Electrodeposited Metallic Coatings 1958—ASTM Standards 1124
Supplements to Book of ASTM Standards 289
Test Methods for Magnesium Surface Treatments, F. W. Pfohl and H. T. Francis 924
Thin Metal Films as Corrosion Indicators, R. B. Belser and F. E. Hankinson 1124

Page

Borlet, C. G.
Seek and Ye Shall Find (Editorial) 1099
Brenner, A.
Moscow Conference on Corrosion and Protection of Metals 1048
Bromstead, E. J. and M. A. Glaser
Modern Organic Finishes 1038
Brown, H., M. Weinberg and R. J. Clauss
Corrosion Studies with Nickel-Chromium Plate, The Influence of the Porosity Pattern and Thickness of the Chromium Plate 144
Buffing Compound, Liquid vs. Bar, E. T. Candee 35
Bumper Crop, Plating A, J. H. Lee 1046
Burman, A. R.
Abrasive Wet Blasting for Cleaning and Finishing Metals 45

C

Cadmium Embrittlement of High Strength Steels at Elevated Temperatures, B. Cohen 1127
Candee, E. T.
Liquid vs. Bar Buffing Compound 35
Cast Stainless Pump Handles Corrosive Electrolytes, E. A. Schoefer 366
Ceramic Reinforced Alloys and Plated Cermets, M. T. Curran (Books) 756
Chemistry of Bright Nickel Plating Solutions, The, E. B. Saubestre 1219
Chemistry of Watts Nickel Plating Solutions, The, E. B. Saubestre 927
Chromium
Corrosion Studies with Nickel-Chromium Plate, The Influence of the Porosity Pattern and Thickness of the Chromium Plate, H. Brown, M. Weinberg and R. J. Clauss 144
Developments in Decorative Plating, C. H. Sample 721
Inexpensive Apparatus for Interferometrically Measuring Thickness of Electroplated Chromium and Other Thin Films, R. L. Saur 1232
Clarke, W. W.
Simplified Method for Lining Concrete Surfaces 255
Clauss, R. J., H. Brown and M. Weinberg
Corrosion Studies with Nickel-Chromium Plate, The Influence of the Porosity Pattern and Thickness of the Chromium Plate 144
Cleaning
Abrasive Wet Blasting for Cleaning and Finishing Metals, A. R. Burman 45
Cleaning and Preparation of Metals for Electroplating, AES Project No. 12 (Summary) 345
Cleaning and Preparation of Metals Prior to Electroplating: Effect of Oxide Films X. Experimental Results, H. B. Linford and D. O. Feder AES Research Project No. 12 349
Cleaning and Preparation of Metals Prior to Electroplating: Effect of Oxide Films. XI. Effect of Oxides on the Adhesion of Electroplates, H. B. Linford and A. Venkateswarlu AES Research Project No. 12 728
Eliminating "Skin Trouble" at Grumman, T. Delgiudice 1136
Precision Cleaning and Deburring of Missile Guidance Components, H. W. Mueller 937
Coated Abrasive Machinery Show (3rd) 876
Coated Abrasives—Modern Tool of Industry (Books) 924
Coatings for High Temperature and Abrasive Protection—Modern Organic Finishes, M. A. Glaser and E. J. Bromstead 1038
Cohen, B.
Cadmium Embrittlement of High Strength Steels at Elevated Temperatures 1127
Color Anodizing Enters the Aircraft Field, E. Delamater 1142
Committee B-8, American Society for Testing Materials Semi-Annual Meeting, E. B. Saubestre 340, 1240
Conservation Approach to Industrial Waste Control, The, D. Milne 842
Copper on Wax and Plastic Models, Electroforming, R. H. Pasley 1228
Corrosion
Corrosion Studies with Nickel-Chromium Plate, The Influence of the Porosity Pattern and Thickness of the Chromium Plate, H. Brown, M. Weinberg and R. J. Clauss 144
Corrosion Map of the United States 1080
Corrosion and Protection of Metals, Moscow Conference on, A. Brenner 1048
Salt Spray Testing of Tinplated Copper 1. Corrosion Measurement by Chemical Porosity Test, M. S. Frant 157
Salt Spray Testing of Tinplated Copper. 2. Comparison of Corrosion Rates in Different Test Locations, M. S. Frant 734
Costs, Let's Cut Finishing, L. H. Vorce 50
Courses in Electroplating 866

Page

D

Delamater, E.
Color Anodizing Enters the Aircraft Field. 1142
Delgiudice, T.
Eliminating "Skin Trouble" at Grumman. 1136
Descaling and Cleaning of Titanium and Titanium Alloys, D. W. Stough and others (Books). 924
Development of a Nondestructive Test for Evaluation of Adhesion of Electrodeposits on Steel as in Silver-plated Aircraft Bearings, A. L. Walters and S. A. Wenk (Books). 289
Development of Electroplating Processes to Eliminate Hydrogen Embrittlement in High-Strength Steel, J. E. Chilton (Books) 825
Developments in Decorative Plating, C. H. Sample. 721
Diveley, L. L.
Milwaukee's Infant Organic Division Matured. 257
Dvorin, R.
Variations in the Design of Plating Waste Treat Systems. 827

E

Eddy, F. T.
What's New About 1958? (Editorial). 7
Torch, The (Editorial). 435
Editorials
AFS At Its Half-Century Milepost, J. P. Nichols. 699
God Rest Ye Merry, Gentlemen, J. P. Nichols. 1199
"Golden Opportunity, A"—The AES Golden Anniversary, R. D. Wysong. 899
Mustard Seed, The, H. E. Head. 799
Organic Finishing—"A General View," R. D. Wysong. 211
Propinquity, W. A. Wesley. 999
Research and Development, R. A. Ehrhardt. 319
Seek and Ye Shall Find, C. G. Borlet. 1099
Striking That $9,990 Blow, J. P. Nichols. 111
Torch, The, F. T. Eddy. 435
What's New About 1958?, F. T. Eddy. 7
Effective Thickness of Chromium Plate on the Sensitivity of Magnetic Particle Inspection, W. Steindorf and B. Cohen (Books). 676
Ehrhardt, R. A.
Research and Development (Editorial). 319
Electroforming Copper on Wax and Plastic Models, R. H. Pasley. 1228
Electroless Nickel Can Do For You, What, R. J. Girard. 1234
Electrolysis of Fused Salts, Production of Uranium by, C. Marzano. 941
Electroplating Course Conducted by Newark Branch, F. J. La Manna. 650
Electroplating Research at the International Nickel Company Research Laboratories. 360
Electroplating Waste Effluents, Analysis for Zinc, Cadmium and Copper in, F. Stevens and L. E. Lancy. 832
Eliminating "Skin Trouble" at Grumman, T. Delgiudice. 1136
Engineering Materials Handbook, C. L. Mantell (Books). 188
Engineering Study of Vacuum Metallizing, University of Denver, An (Books). 1124
Evangelides, H. A.
Magnesium and Protective Coatings for Magnesium. 493

F

Fabulous Story of William Blum, The. 644
Faust, C. L., G. B. Schaer and W. H. Safranek
Antimony Plating on Steel and Zinc. 139
Faust, C. L. and W. H. Safranek
Improved Electroplated Finishes for Zinc Die Castings. 1027
Feder, D. O. and H. B. Linford
Cleaning and Preparation of Metals Prior to Electroplating: Effect of Oxide Films X. Experimental Results, AES Research Project No. 12. 349
Finishing, Aircraft, N. I. Gaynes. 1133
Five Years of Ion Exchange, S. Rothstein. 835
Flame-Spraying Plastisols, R. F. McTague. 245
Flow Coat Painting Is Here to Stay, Industrial, E. A. Zahn. 252
Foulke, D. G.
Patent Abstracts. 62, 170, 274, 387, 559, 662, 769, 861, 964, 1063, 1166, 1254
Foulke, D. G. and C. F. Gurnham
Bibliography on Metal Finishing Wastes, 1957. 851
Frant, M. S.
Salt Spray Testing of Tinplated Copper
1. Corrosion Measurement by Chemical Porosity Test. 157
Salt Spray Testing of Tinplated Copper.
2. Comparison of Corrosion Rates in Different Test Locations. 734
Fused Salts, Production of Uranium by Electrolysis of, C. Marzano. 941

Page

G

Garland, R. C., R. L. Garrett and T. Sawyer Jr.
How Trans World Airlines Treats Plating Shop Wastes. 847
Garrett, R. L.
A Practical Apparatus for the Control of Lead-Tin Alloy Plating Baths. 1139
Garrett, R. L., R. C. Garland and T. Sawyer Jr.
How Trans World Airlines Treats Plating Shop Wastes. 847
Gaynes, N. I.
Aircraft Finishing. 1133
Girard, R. J.
What Electroless Nickel Can Do For You. 1234
Glaser, M. A. and E. J. Bromstead
Modern Organic Finishes. 1038
God Rest Ye Merry, Gentlemen, J. P. Nichols (Editorial). 1199
Gold Alloy Plating, Recent Developments in, E. A. Parker. 631
"Golden Opportunity, A"—The AES Golden Anniversary, R. D. Wysong (Editorial). 899
Guide to Electrodeposited Coatings and Other Surface Treatments for Metals, D. E. Couch and J. W. Hensely (Books). 924
Gurnham, C. F. and D. G. Foulke
Bibliography on Metal Finishing Wastes, 1957. 851

H

Hafer, R. F.
New Developments in Anodizing Aluminum. 623
Head, H. E.
The Mustard Seed (Editorial). 799
High Temperature Protective Coatings for Magnesium, C. R. Fitzgibbon, E. H. Miller and M. A. Glaser (Books). 554
Hoffman, F. M.
Cincinnati Convention and the AES Ladies. 754
How to Barrel Finish Eggs, W. Biebel. 31
How Trans World Airlines Treats Plating Shop Wastes, R. L. Garrett, R. C. Garland and T. Sawyer Jr. 847
Huston, K. M.
Order of the Pot: Its Saga. 264

I

Improved Electroplated Finishes for Zinc Die Castings, W. H. Safranek and C. L. Faust. 1027
Industrial Flow Coat Painting Is Here to Stay, E. A. Zahn. 252
Industrial Waste Control, The Conservation Approach to, D. Milne. 842
Inexpensive Apparatus for Interferometrically Measuring Thickness of Electroplated Chromium and Other Thin Films, R. L. Saur. 1232
Influence of Physical Metallurgy and Mechanical Processing of the Basis Metal on Electroplating, The, AES Project No. 14 (Summary). 346
In-Plant Plating Proves Economical. 636
International Conference on Electrodeposition and Metal Finishing Speakers, Fifth. 953, 1157
International Nickel Company Research Laboratories, Electroplating Research at the. 360
Investigation of the Applicability of High Frequency Sound Waves (Ultrasonics) for Cleaning of Precision Parts, O. E. Mattiat and P. P. Zapponi (Books). 188
Ion Exchange, Five Years of, S. Rothstein. 835

K

Keynote Address at the AES 45th Annual Convention, L. Michelson. 1146
Koeckritz, E. P. Jr.
Some Current Applications of Phosphate Coatings. 248

L

La Manna, F. J.
Electroplating Course Conducted by Newark Branch. 650
Lancy, L. E. and F. Stevens
Analysis for Zinc, Cadmium and Copper in Electroplating Waste Effluents. 832
Lee, J. H.
Plating A Bumper Crop. 1046
Let's Cut Finishing Costs, L. H. Vorce. 50
Light Metals and Alloys B-7—ASTM Standards (Books). 756
Liquid vs. Bar Buffing Compound, E. T. Candee. 35
Loebenstein, J.
Manufacturing a New High Current Density Selenium Rectifier. 739
Linford, H. B. and D. O. Feder
Cleaning and Preparation of Metals Prior to Electroplating: Effect of Oxide Films X. Experimental Results, AES Research Project No. 12. 349

Page

Linford, H. B. and A. Venkateswarlu
Cleaning and Preparation of Metals Prior to Electroplating: Effect of Oxide Films. XI. Effect of Oxides on the Adhesion of Electroplates AES Research Project No. 12. 728
Lining Concrete Surface, Simplified Method for, W. W. Clarke. 255
Logozzo, A. W.
Mold Polishing. 628

M

Magnesium and Protective Coatings for Magnesium, H. A. Evangelides. 493
Mailbox. 276
Manufacturing a New High Current Density Selenium Rectifier, J. Loebenstein. 739
Marzano, C.
Production of Uranium by Electrolysis of Fused Salts. 941
McTague, R. F.
Flame-Spraying Plastisols. 245
Measuring Thickness of Electroplated Chromium and Other Thin Films, Inexpensive Apparatus for Interferometrically, R. L. Saur. 1232
Mechanical Finishing of Metal Surfaces, AES Project No. 18 (Summary). 348
Mechanical Finishing of Metal Surfaces—AES Research Project No. 18 (Bibliography). 380
Mechanism of Electrodeposition, AES Project No. 16 (Summary). 347
Meet Mr. President, Craig L. McAlister. 548
Metal Cleaning Bibliographical Abstracts, ASTM 90-D (Books). 69
Metal Surfaces, Organic Finishes Over, Perez, M. 239
Methods for Emission Spectrochemical Analysis, ASTM (Books). 69
Michelson, L.
Sir Isaac Newton and the International Geophysical Year (Keynote Address at 45th AES Convention). 1146
Microthrowing Power, AES Project No. 17 (Summary). 347
Microthrowing Power and Leveling of Plating Baths, Research on, E. Raub. 486
Milne, D.
Conservation Approach to Industrial Waste Control, The. 842
Missile Guidance Components, Precision Cleaning and Deburring of, H. W. Mueller 937
Modern Organic Finishes with Special Emphasis on Coatings for High Temperature and Abrasive Protection, M. A. Glaser and E. J. Bromstead. 1038
Mold Polishing, A. L. Logozzo. 628
Moscow Conference on Corrosion and Protection of Metals, A. Brenner. 1048
Mueller, H. W.
Precision Cleaning and Deburring of Missile Guidance Components. 937
Mustard Seed, The, H. E. Head (Editorial). 799

N

Nature, Cause and Effect of the Porosity in Electrodeposits, The, AES Project No. 13 (Summary). 346
New Developments in Anodizing Aluminum, R. F. Hafer. 623
Nichols, J. P.
AES At Its Half-Century Milepost (Editorial). 699
God Rest Ye Merry, Gentlemen (Editorial). 1199
Milestones of AES. 855, 955, 1052, 1152, 1242
Potomac Scientist Gets His "Just Deserts" 645
Striking That $9,990 Blow (Editorial). 111
Nickel
Alkaline Nickel Plating, E. B. Saubestre. 479
Chemistry of Bright Nickel Plating Solutions, The, E. B. Saubestre. 1219
Chemistry of Watts Nickel Plating Solutions, The, E. B. Saubestre. 927
Corrosion Studies with Nickel-Chromium Plate
The Influence of the Porosity Pattern and Thickness of the Chromium Plate, H. Brown, M. Weinberg and R. J. Clauss. 144
Developments in Decorative Plating, C. H. Sample. 721
What Electroless Nickel Can Do For You, R. J. Girard. 1234

O

Ogburn, F.
Research Program Holds Fruitful Two-Day Washington Conference. 136
Order of the Pot: Its Saga, K. M. Huston. 264
Organic Finishing—"A General View," R. D. Wysong (Editorial). 211
Organic Finishing
Aircraft Finishing, N. I. Gaynes. 1133
Flame-Spraying Plastisols, R. F. McTague 245
Industrial Flow Coat Painting Is Here to Stay, E. A. Zahn. 252
Organic Finishes Over Metal Surfaces, M. Perez. 239

Page

Organic Finishes with Special Emphasis on Coatings for High Temperature and Abrasive Protection, Modern, M. A. Glaser and E. J. Bromstead 1038
Some Current Applications of Phosphate Coatings, E. P. Koeckritz Jr. 248

P

Parker, E. A.
Recent Developments in Gold Alloy Plating 631
Pasley, R. H.
Electroforming Copper on Wax and Plastic Models 1228
Patent Abstracts
Alloys
Diffusion Alloys—No. 2,801,187, 7/30/57—P. Galmiche (Pat. Abs.) 62
Black Chromium-Vanadium Coatings—No. 2,824,829, 2/25/58—M. Quarly .. 664
Chromium Alloy Plating—No. 2,822,326, 2/4/58—W. Safranek 662
Co-Ni Electroplating—No. 2,834,725, 5/13/58—H. Schur and E. Yerk 1063
Electrodeposition of Alloys—No. 2,831,803, 4/22/58—W. Waterman and V. Gripp 863
Electrodeposition of Fe-Zn Alloys—No. 2,832,729, 4/29/58—W. H. Safranek. 964
Forming Chromium Alloys on Surfaces—No. 2,816,048, 12/10/57—P. Galmiche 388
Nickel-Iron Zinc Alloy Electroplating—No. 2,840,517, 6/24/58—C. Faust and W. Safranek 1066
Plating Cadmium Indium Alloys—No. 2,818,374, 12/31/57—A. Certa and T. Manns 560
Tin-Copper-Cadmium Electroplating—No. 2,802,780, 8/13/57—R. Shockley (Pat. Abs.) 65
Tin-Antimony Plating—No. 2,825,683, 3/4/58—F. Lowenheim and H. Forman 665
Aluminum
Aluminum Coating Steel—No. 2,800,707, 7/30/57—M. Whitfield (Pat. Abs.) 62
Aluminum Conversion Coating—No. 2,814,577, 11/26/57—N. Newhard Jr. 387
Aluminum Solder Flux—No. 2,801,943, 8/6/57—M. Freeman (Pat. Abs.) 63
Aluminum Soldering Flux—No. 2,801,194, 7/30/57—R. Doerr (Pat. Abs.) .. 62
Aluminum Surfacing—No. 2,836,526, 5/27/58—M. Marosi 1064
Aluminum Treating Solutions—No. 2,828,193, 3/25/58—K. Newman 770
Aluminum Treatment—No. 2,811,426, 10/29/57—R. Mason 170
Aluminum Treatment—No. 2,819,192, 1/7/58—J. Young 861
Brazing Aluminum—No. 2,809,423, 10/15/57—D. Hanink 170
Coating Aluminum—No. 2,833,679, 5/6/58—M. Steinberg 966
Dyeing Anodized Aluminum—No. 2,814,576, 11/26/57—C. Zickendrahb and R. Wittever 387
Manufacture of Aluminum Alloys—No. 2,829,092, 4/1/58—J. Andrieux 861
Method of Electroplating Aluminum—No. 2,807,575, 9/24/57—C. Charlton and N. Murphy (Pat. Abs.) 74
Soldering Aluminum—No. 2,824,365, 2/25/58—G. Erickson 662
Anodes
Anode—No. 2,802,782, 8/13/57—R. Bayes (Pat. Abs.) 65
Copper Plating Anodes—No. 2,809,929, 10/15/57—B. Ostrow and F. Nobel 170
Lead Anode—No. 2,820,005, 1/14/58—W. Belke and H. Johnson 562
Lead Anode for Chromium Plating—No. 2,840,523, 6/24/58—W. Cibulskis 1082
Porous Anode—No. 2,813,069, 11/12/57—B. Raynes 274
Anodizing
Anodizing Aluminum Coated Objects—No. 2,839,455, 6/17/58—H. LaTour and D. Perry 1066
Process for Rapidly Anodizing Aluminum—No. 2,844,529, 7/22/58—A. Cybriwsky and N. Mostovyck 1255
Antimony
Antimony Plating—No. 2,801,959, 8/6/57—A. DuRose (Pat. Abs.) 63
Antimony Plating—No. 2,813,065, 11/12/57—A. H. DuRose 171
Antimony Plating—No. 2,823,176, 2/11/58—E. Breining, C. Nixon and W. Vincent 662
Antimony Plating Bath—No. 2,817,628, 12/24/57—E. Breining and W. Vincent 559
Antimony Plating Bath—No. 2,817,629, 12/24/57—C. Smart 559
Barrels
Barrel Plating—No. 2,844,528, 7/22/58—A. Hoffman 1255
Tumbling Barrels—No. 2,843,970, 7/22/58—J. Lupo 1254

Page

Beryllium
Production of Metallic Beryllium—No. 2,843,544, 7/15/58—S. Morana 1254
Bismuth
Bismuth and Bismuth Alloy Plating—No. 2,821,505, 1/28/58—J. Beach 563
Brass
Bright Brass Plating—No. 2,817,627, 12/24/57—B. Ostrow, N. Belmore and F. Nobel 559
Brighteners
Copper and Brass Plating Brightener—No. 2,838,448, 6/10/58—D. France .. 1066
Electroplating Brighteners—No. 2,837,472, 6/3/58—W. Gundel 1065
Buffing
Anti-Slaking Buffing Compositions—No. 2,847,290, 8/12/58—B. Marsh and R. Betcher 1256
Buff—No. 2,816,403, 12/17/57—R. Peterson 389
Buffing Composition—No. 2,829,035, 4/1/58—S. Doughty and E. T. Candee. 861
Buffing Wheel—No. 2,803,096, 8/20/57—S. Mockiewicz (Pat. Abs.) 65
Buffing Cooling Mechanism—No. 2,826,880, 3/18/58—J. Wisnieski and W. Martin 769
Buffing Wheel—No. 2,833,637, 5/6/58—H. Zucker and W. Wilkinson ... 964
Method of Making Cloth Buffs—No. 2,806,332, 9/17/57—J. Lawler (Pat. Abs.) 74
Cadmium
Cadmium Plating—No. 2,833,705, 5/6/58—J. Winters 966
Electroplating of Cadmium—No. 2,803,593, 8/20/57—L. High and W. Hague (Pat. Abs.) 65
Chromium
Chromium Electroplating—No. 2,846,380, 8/5/58—H. Brown 1256
Chromium Plating—No. 2,830,015, 4/8/58—L. W. Raymond 862
Chromium Plating—No. 2,841,540,7/1/58—R. Smith 1082
Chromium Plating Aluminum—No. 2,836,550, 5/27/58—W. MacLean ... 1064
Chromium Plating Aluminum—No. 2,847,371, 8/12/58—P. Topelian 1257
Chromium Plating Bath—No. 2,801,214, 7/30/57—M. Zell (Pat. Abs.) 63
Ductile Chromium—No. 2,824,053, 2/18/58—E. Wainter 662
Electroless Chromium Plating—No. 2,829,059, 4/1/58—P. Eisenberg and D. Raleigh 964
Removing Chromium from Plating Baths—No. 2,833,703, 5/6/58—E. Raue 966
Chromizing
Chromizing—No. 2,811,466, 10/29/57—G. Samuel 170
Chromizing—No. 2,819,208, 1/7/58—P. Galmiche 560
Chromizing—No. 2,825,658, 3/4/58—G. Samuel 664
Chromizing—No. 2,836,513, 5/27/58—G. Samuel 1063
Chromizing Molybdenum, Tungsten and Their Alloys—No. 2,837,442, 6/3/58—R. Seely and R. Wachtell 1064
Cleaning
Cleaning Apparatus—No. 2,834,359, 5/13/58—J. Kearney 967
Cleaning Metal Strip Continuously—No. 2,818,075, 12/31/57—R. Dunlevy 560
Cleaning Metal Surfaces—No. 2,817,195, 12/24/57—L. Curtin 389
Cleaning Stainless Steel—No. 2,806,000, 9/10/57—M. Streicher (Pat. Abs.) ... 66
Electrocleaner for Brass—No. 2,830,942, 4/15/58—R. Elliot 863
Electrocleaning Vanadium—No. 2,803,596, 8/20/57—C. Brown (Pat. Abs.) 66
Electrolytic Cleaning—No. 2,801,215, 7/30/57—H. Webster (Pat. Abs.) 63
Material for Cleaning Silver—No. 2,807,584, 9/24/57—E. Rushton (Pat. Abs.) 74
Method of Cleaning—No. 2,802,758, 8/13/57—T. Kearney (Pat. Abs.) 64
Tarnish Remover—No. 2,801,961, 8/6/57—H. Treece (Pat. Abs.) 64
Copper
Bright Copper Plating—No. 2,805,193, 9/3/57—J. Beaver (Pat. Abs.) 66
Bright Copper Plating—No. 2,825,684, 3/4/58—C. Wernlund 861
Cyanide Copper Plating—No. 2,813,066, 11/12/57—B. Ostrow 171
Electrodeposition of Copper—No. 2,814,590, 11/26/57—L. Portzer and W. Leitenberger 387
Corrosion
Arsenic Boron Compounds and Methods of Inhibiting Corrosion Therewith—No. 2,805,915, 9/10/57—G. Rohr-Back (Pat. Abs.) 66
Corrosion Inhibition—No. 2,814,593, 11/26/57—J. Beiswanger 388
Corrosion Inhibition—No. 2,837,474, 6/3/58—G. Cartledge 1065
Corrosion Resistant Coatings—No. 2,840,498, 6/24/58—E. Logue and E. Bell 1066

Page

Corrosion Resistant Films on Aluminum—No. 2,844,496, 7/22/58—I. Newell 1254
Inhibition of Corrosion of Phosphated Metal Surfaces—No. 2,820,723, 1/21/58—W. Le Suer 562
Decoration
Decorating Composition—No. 2,842,457, 7/8/58—J. Morgan and C. Wagner 1166
Method of Ornamentation—No. 2,847,370, 8/12/58—L. Howard and E. Tyler 1257
Descaling
Descaling Metals—No. 2,823,150, 2/11/58—J. Hendricks 662
Electrodeposition
Electrodepositing Metals—No. 2,845,387, 7/29/58—G. Schnable 1255
Electrodeposition of Bright Zinc, Copper or Nickel—No. 2,828,252, 3/25/58—F. Fischer 861
Metal Electrodeposits—No. 2,842,488, 7/8/58—W. Strauss 1254
Electrolytes
Electrolytic Treatment of Waste Sulfate Pickle Liquor—No. 2,810,686, 10/22/57—G. Bodamer and C. Horner 170
Non-Aqueous Electro-Conductive Electrolyte—No. 2,839,472, 6/17/58—M. Nevolonny 1066
Storage Battery Electrolyte—No. 2,838,429, 6/10/58—C. Sanders 1066
Electroplating
Electroplating—No. 2,824,830, 2/25/58—J. Hausner 664
Electroplating—No. 2,825,681, 3/4/58—S. Johnston 664
Electroplating—No. 2,839,456, 6/17/58—D. Foulke and O. Kardos 1066
Electroplating—No. 2,839,457, 6/17/58—D. Foulke and O. Kardos 1066
Electroplating—No. 2,839,458, 6/17/58—D. Foulke and O. Kardos 1066
Electroplating—No. 2,839,459, 6/17/58—D. Foulke and O. Kardos 1066
Electroplating—No. 2,839,460, 6/17/58—D. Foulke and O. Kardos 1066
Electroplating Apparatus—No. 2,830,946, 4/15/58—W. Pleadwell 863
Electroplating Apparatus—No. 2,833,708, 5/6/58—M. Hammond and G. Bowman 966
Electroplating Apparatus—No. 2,841,547, 7/1/58—P. Kotz 1084
Electroplating Conductor—No. 2,810,691, 10/22/57—M. J. Urilakas 170
Electroplating Process—No. 2,830,014, 4/8/58—W. Gundel, W. Strauss and H. Haas 862
Method of Plating—No. 2,816,066, 12/10/57—A. Russell 389
Plating Apparatus—No. 2,828,255, 3/25/58—E. Gempes 861
Electropolishing
Electropolishing Molybdenum—No. 2,829,097, 4/1/58—E. Bowerman and E. Saubestre 861
Equipment
Conveying Mechanism—No. 2,802,559, 8/13/57—P. Hauch (Pat. Abs.) 64
Plating Equipment for Piston Rings—No. 2,846,379, 8/5/58—C. Chambers and R. Spaulding 1256
Work Processing Machine—No. 2,826,288, 3/11/58—A. Glarer 665
Finishing
Deburring and Polishing Machine—No. 2,815,609, 12/3/57—A. von der Linden and S. Yacus 388
Finishing Apparatus—No. 2,805,530, 9/10/57—Paul Schaffner (Pat. Abs.). 66
Finishing Metal Surfaces—No. 2,812,295, 11/5/57—J. Patrick 171
Galvanizing
Galvanizing Flux—No. 2,813,044, 11/12/57—A. Chester 171
Galvanizing Flux—No. 2,829,077, 4/1/58—D. Speed 861
Etching
Aluminum Etching—No. 2,839,370, 6/17/58—D. Foulke and O. K. Irgens .. 1066
Etching Bath—No. 2,846,294, 8/5/58—R. Patterson and Y. Yamada 1255
Etching Metals—No. 2,828,192, 3/25/58—W. Langsfeld 770
Etching Process—No. 2,847,287, 8/12/58—C. Landgren 1256
Preventing Etching by Chromium Plating Baths—No. 2,812,297, 11/5/57—J. Stareck and R. Dow 171
Gas Plating
Gas Plating—No. 2,843,506, 7/15/58—F. Drummond 1254
Gas Plating with Aluminum—No. 2,847,320, 8/12/58—J. Bulloff 1256
Producing Shapes by Gas Plating—No. 2,834,690, 5/13/58—P. Marvin .. 967
Gold
Deposition of Gold—No. 2,812,299, 11/5/57—F. Volk 171
Gold Immersion Solution—No. 2,836,515, 5/27/58—F. McNally 1063
Gold Plating—No. 2,801,960, 8/6/57—R. Seegmiller 63

(Pat. Abs., Continued) Page

Iron
- Electrodeposition of Iron—No. 2,809,-156, 10/8/57—W. Safranek 170
- Electroless Iron Plating—No. 2,827,398, 3/18/58—P. Eisenberg 769
- Finely Divided Iron—No. 2,824,052, 2/18/58—F. Czech 662
- Treatment of Iron—No. 2,832,707, 4/29/58—F. Rosstentscher 964

Lead
- Electrolytic Refining of Lead—No. 2,-827,410, 3/18/58—F. Mathers 770
- Lead Coating Process—No. 2,813,804, 11/19/57—F. Kendall and P. Golar 275
- Lead Coating Process—No. 2,842,461, 7/8/58—H. Wagner 1166

Manganese
- Electrolytic Manganese—No 2,805,195, 9/3/57—J. Jacobs 66
- Electrolytic Manganese—No. 2,810,685, 10/22/57—W. Sukowski 170
- Electrolytic Manganese—No. 2,814,591, 11/26/57—R. Dean 388

Miscellaneous
- Abrasive—No. 2,811,430, 10/29/57—J. Gregor and H. Van Orden 170
- Acid Copper Addition Agents—No. 2,-840,518, 6/24/58—J. Condon 1082
- Acidizing Industrial Equipment—No. 2,838,417, 6/10/58—B. Robinson 1065
- Adherence Treatment of Metal Surfaces—No. 2,824,526, 2/25/58—T. Nohijl 664
- Apparatus for Electrolytic Cutting, Shaping and Grinding—No. 2,826,-540, 3/11/58—G. Keeleric 665
- Black Coatings—No. 2,814,574, 11/26/-57—G. Freeman and K. Berberian 387
- Cerium Oxide Polishing Composition—No. 2,816,824, 12/17/57—H. Wilansky 389
- Chemical Deposition of Metals—No. 2,801,935, 8/6/57—J. Owen 63
- Coating Metal Strip—No. 2,824,020, 2/18/58—N. Cook and S. Norteman 662
- Cobalt Catalytic Screen—No. 2,811,490, 10/29/57—B. Sherwood 170
- Colored Glass Fibers—No. 2,824,828, 2/25/58—H. Homer and J. Whitacre 664
- Composite Metal Structure—No. 2,817,-141, 12/24/57—H. Toulmin Jr. 389
- Composite Metallic Material—No. 2,-813,803, 11/19/57—H. Homer and J. Whitacre 274
- Composition for Coating Metallic Surfaces—No. 2,835,617, 5/20/58—J. Maurer 1065
- Current Density Control—No. 2,820,-004, 1/14/58—G. Rendel 562
- Electrode Assembly—No. 2,833,710, 5/6/58—D. Mielke 967
- Electrode Holder—No. 2,841,548, 7/1/58—D. Perlman 1166
- Electrolytic Cladding—No. 2,828,251, 3/25/58—M. Sibert and J. Burwell 861
- Electrophoresis—No. 2,843,541, 7/15/58—S. Senderoff and W. Ried 1254
- Electroplating Hanger—No. 2,841,549, 7/1/58—G. B. Hogaboom Jr. 1166
- Film Resistors—No. 2,815,302, 12/3/57—B. Ostrofsky and J. Ballard 388
- Forming a Glossy Surface—No. 2,847,-286, 8/12/58—H. Neunzig 1256
- Forming High Friction Element—No. 2,828,254, 3/25/58—F. Fahnoe and J. Shyne 861
- Hard Surfacing—No. 2,803,559, 8/20/57—W. Rutherford and H. Griswald 65
- Hydrazine Manufacture—No. 2,813,-067, 11/12/57—A. Stuart 274
- Impregnating Porous Metal Articles—No. 2,817,601, 12/24/57—D. Shigley 559
- Improvement of Soils—No. 2,831,804, 4/22/58—J. Collopy 863
- Inhibitor Acid—No. 2,807,585, 9/24/57—G. Gardner and A. Saukaitis 74
- Leaching Precious Metals—No. 2,843,-538, 7/15/58—O. Haugeus 1254
- Making Ceramic Clad Metal Structures—No. 2,826,541, 3/11/58—J. Shyne 769
- Making Composite Articles—No. 2,809,-422, 10/15/57—H. Shultz 170
- Making Fine Mesh Screens—No. 2,805,-986, 9/10/57—H. Law 66
- Manufacture of Hollowed Articles—No. 2,812,294, 11/5/57—G. Rosenqvist 171
- Metal Blackening Process—No. 2,826,-538, 3/11/58—J. Hunter and L. Kosowsky 665
- Metal Coated Dielectrics—No. 2,833,-676, 5/6/58—J. Heibel and J. Schell 966
- Metal Coatings—No. 2,812,270, 11/5/57—P. Alexander 170
- Metal Deposition—No. 2,822,292, 2/4/58—H. Schladitz 662
- Metal Processing—No. 2,847,374, 8/12/58—H. Webster and R. Shoemaker 1257
- Method for Coating Wires—No. 2,823,-180, 2/11/58—E. Rothschild 662
- Method of Metallizing Articles—No. 2,812,272, 11/5/57—H. Nack 171
- Method of Producing Metal Compounds on Metal—No. 2,805,965, 9/10/57—P. Robinson 66
- Method of Recovering Cyanides—No. 2,845,330, 7/29/58—W. Zabban 1255
- Mold Cavities and Force Plugs—No. 2,846,377, 8/5/58—A. Ross 1256

Oxalate Coatings on Metallic Surfaces—No. 2,805,969, 9/10/57—E. Goodspeed and R. Gibson 66
- Oxalate Coatings on Metals—No. 2,-835,616, 5/20/58—W. Rausch and F. Gonnert 1063
- Plating Glass Fiber Rovings—No. 2,-818,351, 12/31/57—H. Nack and J. Whitacre 560
- Plated Porous Materials—No. 2,846,-759, 8/12/58—R. Foley and E. Raymond 1256
- Plated Refractory Metals—No. 2,805,-192, 9/3/57—S. Brenner 66
- Plating Barrel—No. 2,836,400, 5/27/58, W. Jackson 1063
- Plating Plastic Articles—No. 2,834,724, 5/13/58—A. P. Mendes 1063
- Production of Metals—No. 2,830,940, 4/15/58—R. Hood 862
- Production of Silver Mirrors—No. 2,-819,982, 1/14/58—W. Westerveld 562
- Protective Coating—No. 2,812,298, 11/5/57—R. Hardoen 171
- Protective Coatings on Iron Articles—No. 2,827,425, 3/18/58—R. McGlasson and F. Radd 770
- Removing Ferrous Sulfate from Solutions Containing Nickel and/or Cobalt—No. 2,816,819, 12/17/57—A. Wallis and D. West 389
- Selectively Removing Metal from a Part—No. 2,802,726, 8/13/57—W. Langsfeld 64
- Separating Plutonium Values—No. 2,-830,936, 4/15/58—A. Wehl 862
- Silvering Mirrors—No. 2,815,298, 12/3/57—H. Heffley 388
- Treatment of Material—No. 2,830,881, 4/15/58—H. Wittrock 862

Molybdenum
- Molybdenum Coating—No. 2,815,299, 12/3/57—P. Raymond 388

Nickel
- Black Nickel Plating—No. 2,844,530, 7/22/58—W. Wesley and B. Knapp 1255
- Chemical Nickel Plating—No. 2,816,-846, 12/17/57—P. Talmey 389
- Chemical Nickel Plating—No. 2,819,-187, 1/7/58—G. Gutzeit, et al. 560
- Chemical Nickel Plating—No. 2,822,-293, 2/4/58—G. Gutzeit, et al. 662
- Chemical Nickel Plating—No. 2,837,-445, 6/3/58—P. Talmey and D. Metheny 1065
- Dull Nickel—No. 2,842,487, 7/8/58—D. Carr 1166
- Electrodeposition of Nickel—No. 2,-800,440, 7/23/57—H. Brown 62
- Electrodeposition of Nickel—No. 2,-802,779, 8/13/57—W. Cowle 64
- Electroless Nickel Plating—No. 2,847,-327, 8/12/58—P. Talmey and G. Gutzeit 1257
- Nickel Plating—No. 2,818,376, 12/31/57—D. Foulke and O. Kardos 560
- Nickel Plating by Chemical Reduction—No. 2,836,510, 5/27/58—E. J. Bolin 1063
- Nickel Plating Bath—No. 2,836,549, 5/27/58—F. Nobel and B. Ostrow 1064
- Treatment for Nickel for Plating Chromium Thereon—No. 2,836,552, 5/27/58—J. Patrick 1064

Oxides
- Black Oxide Coatings on Steel—No. 2,817,610, 12/24/57—I. Newell and E. Walen 662
- Oxide Insulating Aluminum Conductors—No. 2,824,819—2/25/58—M. Smith 664

Oxidation
- Cold Chemical Oxidation of Aluminum—No. 2,846,343, 8/5/58—W. Mason 1255
- Electrolytic Oxidation of Copper Wire—No. 2,828,250, 3/25/58—D. Hurd 770
- Inhibiting Oxidation of Tin-Plate—No. 2,839,428, 6/17/58—A. Laubscher 1066

Phosphates
- Composition for Producing Phosphate Coatings on Metallic Surfaces—No. 2,839,439, 6/17/58—J. Stapleton 1066
- Phosphate Coatings—No. 2,813,813, 11/19/57—H. Ley 275
- Phosphate Coatings—No. 2,813,815, 11/19/57 275
- Phosphate Coating Composition—No. 2,820,731, 1/21/58—E. Heinzelman and S. Williamson 563
- Phosphate Coatings for Zirconium—No. 2,813,814, 11/19/57 275
- Phosphating—No. 2,837,449, 6/3/58—B. Blaser 1065
- Phosphating Compositions—No. 2,809,-906, 10/15/57—H. Baecker 170
- Phosphating Composition—No. 2,813,-812, 11/19/57—R. I. Somers and J. Rotako 275
- Phosphating—No. 2,845,376, 7/29/58—M. Hyams 1255
- Phosphating Composition—No. 2,832,-706, 4/29/58—B. Toubes 964
- Phosphatizing Steel—No. 2,826,517, 3/11/58—D. Miller 665

Pickling
- Metal Pickling—No. 2,823,184, 2/11/58—R. Plump and J. Carroll 662
- Pickling and Coating Baths—No. 2,-846,341, 8/5/58—W. Johns and W. Wojtowicz 1255

Pickling Metals—No. 2,831,814, 4/22/58—A. Chester and J. Irvwin 863
- Pickling Titanium—No. 2,827,402, 3/18/58, G. Albers and W. Stephenson Jr. 770

Plutonium
- Electrodeposition of Plutonium—No. 2,805,985, 9/10/57—F. Wolter 66

Polishing
- Chemical Polishing of Metals—No. 2,-834,659, 5/13/58—O. Mathre and D. Sowards 967

Preparation
- Preparing Metal Surface for Coating—No. 2,834,691, 5/13/58—W. B. Stephenson and D. H. Greisi 1063
- Treatment of Metals Prior to Plating—No. 2,835,630, 5/20/58—R. Huddle and O. Flint 1063

Printed Circuits
- Plating Printed Circuits—No. 2,834,-723, 5/13/58—J. Robinson 1063

Racks
- Electroplating Rack—No. 2,847,377, 8/12/58—S. Stroinski 1247
- Plating Rack—No. 2,801,965, 8/6/57—J. Monshan 64
- Plating Rack—No. 2,827,430, 3/18/58—V. McGibbon, et al. 861

Rack—No. 2,831,808, 4/22/58—G. Esseff 863

Rack Load—Unloader—No. 2,840,219, 6/24/58—C. Mervyn 1066

Silicon
- Plating on Silicon—No. 2,814,589, 11/26/57—M. Walz 387

Silver
- Bright Silver Plating—No. 2,807,576, 9/24/57—O. Kardos 74
- Silver Powder—No. 2,810,682, 10/22/57—K. Brown 170
- Silvering Surfaces—No. 2,822,289, 2/4/58—E. Millard 662

Soldering Flux
- Soldering Flux—No. 2,801,944, 8/6/57—R. Muir 63
- Soldering Flux—No. 2,803,372, 8/20/57—O. Konig 65
- Soldering Flux—No. 2,817,895, 12/31/57—G. Cunningham and A. Yee 559

Steel
- Carburization of Steel—No. 2,819,992, 1/14/58—C. Albrecht 562
- Coating Stainless Steel—No. 2,813,616, 11/19/57—G. Otto 275
- Coating Steel Surfaces—No. 2,812,296, 11/5/57—R. Neish 171
- Enameling Steel—No. 2,819,207, 1/7/58—G. Shephard 560
- Treating Stainless Steel—No. 2,832,708, 4/29/58—E. Karchner 964

Surface Treatment
- Composition for Smoothening Metal Surfaces—No. 2,820,003, 1/14/58—J. Logan and A. Vujaklia 562
- Metal Surface Treatment—No. 2,847,-321, 8/12/58—L. Eubank 1257
- Process of Treating Metal Surfaces—No. 2,809,138, 10/8/57—E. Wagner and A. Moeller 274
- Surface Treatment of Aluminum—No. 2,825,697, 3/4/58—J. Carroll and N. Newhard 769
- Surface Treatment of Metals—No. 2,-809,127, 10/8/57—T. Gibson 74
- Treating Metal Surfaces—No. 2,819,-193, 1/7/58—W. Rausch 560

Testing
- Testing Device for Plating Characteristics—No. 2,801,963, 8/6/57—R. Hull and J. Winters 64

Tin
- Dull Finished Tin Coating—No. 2,839,-437, 6/17/58—J. Manko 1066
- Method of Depositing Smooth Layers of Tin—No. 2,846,381, 8/5/58—W. Frick 1256
- Method for Treating Tin Surfaces—No. 2,820,747, 1/21/58—R. Frederickson 563
- Tinning—No. 2,822,325, 2/4/58—E. Tinnon and I. Simmons 662

Titanium
- Anti-Galling Titanium Surface—No. 2,838,430, 6/10/58—H. Argenta and J. Johnston 1066
- Coating Titanium Surfaces—No. 2,825,-682, 3/4/58—L. Missel and J. Powell 664
- Electroplating on Titanium—No. 2,-801,213, 7/30/57—F. Beuckman and W. Tucker 62
- Electroplating Titanium—No. 2,829,-091, 4/1/58—L. Missel 861
- Electrowinning Titanium—No. 2,820,-745, 1/21/58—F. von Bachowsky 563
- Producing Titanium and Zirconium—No. 2,817,630, 12/24/57—R. Dean 559
- Production of Titanium No. 2,813,-068, 11/12/57—M. Steinberg and A. Topinka 274

Transfers
- Automatic Two-Way Transfer—No. 2,-806,577, 9/17/57—M. Lang 74
- Transfer Mechanism—No. 2,807,349, 9/24/57—P. Hauck and W. Levering 74
- Transfer Mechanism—No. 2,826,292, 3/11/58—P. Arnold 665

(Pat. Abs., Continued) Page

Uranium
High Treatment of Electroplated Uranium—No. 2,841,539, 7/1/58—P. Hoglund ... 1082
Isotopic Fractionation of Uranium—No. 2,813,064, 11/12/57—A. Clark ... 171
Recovery of Uranium—No. 2,841,538, 7/1/58—R. Porter and E. Pinkney ... 1082
Surface Treatment of Uranium—No. 2,836,548, 5/27/58—A. Gray and E. Schweikoher ... 1064

Zinc
Electrodeposition of Zinc on Magnesium—No. 2,811,484, 10/29/57—H. DeLong ... 170
Electroplating Zinc—No. 2,847,373, 8/12/58—J. Logan ... 1257

Zirconium
Electrowinning Zirconium and Hafnium—No. 2,820,748, 1/21/58—F. von Bachowsky ... 563
Method for Coating Zirconium—No. 2,836,525, 5/27/58—G. Otto ... 1063

Perez, M.
Organic Finishes Over Metal Surfaces ... 239

Phosphate Coatings, Some Current Applications of, E. P. Koeckritz Jr. ... 248

Phosphating Treatments—Patent Literature Survey, E. C. Tinsley (Books) ... 825

Photosensitive Resist Method, The—Production of Printed Circuits, W. P. Van Duesen ... 151

Pitting in Ferrous Systems: An annotated Bibliography, M. Benton (Books) ... 756

Plastisols, Flame-Spraying, R. F. McTague ... 245

Plating
Antimony Plating on Steel and Zinc, G. R. Schaer, W. H. Safranek and C. L. Faust ... 139
Developments in Decorative Plating, C. H. Sample ... 721
Improved Electroplated Finishes for Zinc Die Castings, W. H. Safranek and C. L. Faust ... 1027
Lead-Tin Alloy Plating Baths, A Practical Apparatus for the Control of, R. L. Garrett ... 1139
Nickel Plating, Alkaline, E. B. Saubestre ... 479
Nickel Plating Solutions, The Chemistry of Bright, E. B. Saubestre ... 1219
Nickel Plating Solutions, The Chemistry of Watts, E. B. Saubestre ... 927
Plating A Bumper Crop, J. H. Lee ... 1046
Practical Apparatus for the Control of Lead-Tin Alloy Plating Baths, R. L. Garrett ... 1139
Recent Developments in Gold Alloy Plating, E. A. Parker ... 631
Research on Microthrowing Power and Leveling of Plating Baths, E. Raub ... 486
Plating A Bumper Crop, J. H. Lee ... 1046
Plating Plant Traps Dust at Its Source ... 946
Plating Waste Treat Systems, Variations in the Design of, R. Dvorin ... 827
Polishing, Mold, A. W. Logozzo ... 628
Potomac Scientist Gets His "Just Deserts," J. P. Nichols ... 645
Practical Apparatus for the Control of Lead-Tin Alloy Plating Baths, R. L. Garrett ... 1139
Precision Cleaning and Deburring of Missile Guidance Components, H. W. Mueller ... 937
Production of Printed Circuits: The Photosensitive Resist Method, W. P. Van Deusen ... 151
Production of Uranium by Electrolysis of Fused Salts, C. Marzano ... 941
Propinquity, W. A. Wesley (Editorial) ... 999
Protective Coatings for Magnesium, Magnesium and, H. A. Evangelides ... 493
Protective Shot Peening of Propellers: Part 3—Fatigue and Distortion, R. F. Broderick, Lesselles and Associates (Books) ... 69

R

Radioisotopes (Books) ... 554
Raub, E.
Research on Microthrowing Power and Leveling of Plating Baths ... 486
Recent Developments in Gold Alloy Plating, E. A. Parker ... 631
Rectifier, Manufacturing a New High Current Density Selenium, J. Loebenstein ... 739
Recovery of Embrittled Cadmium Plated Steel, The, H. H. Johnson, E. J. Schneider and A. R. Troiano (Books) ... 1074
Research and Development, R. A. Ehrhardt (Editorial) ... 319
Research on Microthrowing Power and Leveling Plating Baths, E. Raub ... 486
Research Program Holds Fruitful Two-Day Washington Conference, F. Ogburn ... 136
Rothstein, S.
Five Years of Ion Exchange ... 835

S

Safranek, W. H. and C. L. Faust
Improved Electroplated Finishes for Zinc Die Castings ... 1027
Safranek, W. H., G. R. Schaer and C. L. Faust
Antimony Plating on Steel and Zinc ... 139
Salt Spray Testing of Tinplated Copper. 1. Corrosion Measurement by Chemical Porosity Test, M. S. Frant ... 157
Salt Spray Testing of Tinplated Copper. 2. Comparison of Corrosion Rates in Different Test Locations, M. S. Frant ... 734
Sample, C. H.
Developments in Decorative Plating ... 721
Saubestre, E. B.
Alkaline Nickel Plating ... 479
Chemistry of Bright Nickel Plating Solutions, The ... 1219
Chemistry of Watts Nickel Plating Solutions, The ... 927
Semi-Annual Meeting Committee B-8, American Society for Testing Materials ... 340, 1240
Saur, R. L.
Inexpensive Apparatus for Interferometrically Measuring Thickness of Electroplated Chromium and Other Thin Films ... 1232
Sawyer Jr., T., R. L. Garrett and R. C. Garland
How Trans World Airlines Treats Plating Shop Wastes ... 847
Schaer, G. R., W. H. Safranek and C. L. Faust
Antimony Plating on Steel and Zinc ... 139
Schoefer, E. A.
Cast Stainless Pump Handles Corrosive Electrolytes ... 366
Seek and Ye Shall Find, C. G. Borlet (Editorial) ... 1099
Selenium Rectifier, Manufacturing a New High Current Density, J. Loebenstein ... 739
Seward, W. K.
Taking the Guesswork Out of Grinding and Polishing with Abrasive Belts ... 39
Simplified Method for Lining Concrete Surfaces, W. W. Clarke ... 255
Sir Isaac Newton and the International Geophysical Year, L. Michelson ... 1146
Some Current Applications of Phosphate Coatings, E. P. Koeckritz Jr. ... 248
Specification and Tests for Electrodeposited Metallic Coatings 1958—ASTM Standards (Books) ... 1124
Steel
High Strength Steels at Elevated Temperatures, Cadmium Embrittlement of, B. Cohen ... 1127
Steel and Zinc, Antimony Plating on, G. R. Schaer, W. H. Safranek and C. L. Faust ... 139
Stevens, F. and L. E. Lancy
Analysis for Zinc, Cadmium and Copper in Electroplating Waste Effluents ... 832
Striking That $9,990 Blow, J. P. Nichols (Editorial) ... 111

T

Taking the Guesswork Out of Grinding and Polishing with Abrasive Belts, W. K. Seward ... 39
Test Methods for Magnesium Surface Treatments, F. W. Pfohl and H. T. Francis (Books) ... 0000
Thin Metal Films as Corrosion Indicators, R. B. Belser and F. E. Hankinson (Books) ... 1124
Tinplated Copper, Salt Spray Testing of—1. Corrosion Measurement by Chemical Porosity Test, M. S. Frant ... 157
Tinplated Copper, Salt Spray Testing of. 2. Comparison of Corrosion Rates in Different Test Locations, M. S. Frant ... 734
Torch, The, F. T. Eddy (Editorial) ... 435
Tucker, W.
Article References ... 80, 189, 290, 378, 556, 620, 719, 868, 978, 1075, 1167, 1258

U

Uranium By Electrolysis of Fused Salts, Production of, C. Marzano ... 941

V

Van Deusen, W. P.
Production of Printed Circuits: The Photosensitive Resist Method ... 151
Variations in the Design of Plating Waste Treat Systems, R. Dvorin ... 827
Venkateswarlu, A. and H. B. Linford
Cleaning and Preparation of Metals Prior to Electroplating: Effect of Oxide Films. XI. Effect of Oxides on the Adhesion of Electroplates (AES Research Project No. 12) ... 728
Vorce, L. H.
Let's Cut Finishing Costs ... 50

W

Wastes
Analysis for Zinc, Cadmium and Copper in Electroplating Waste Effluents, F. Stevens and L. E. Lancy ... 832
Conservation Approach to Industrial Waste Control, The, D. Milne ... 842
Five Years of Ion Exchange, S. Rothstein ... 835
How Trans World Airlines Treats Plating Shop Wastes, R. L. Garrett, R. C. Garland and T. Sawyer Jr. ... 847
Metal Finishing Wastes, Bibliography on, 1957, C. F. Gurnham and D. G. Foulke ... 851
Variations in the Design of Plating Waste Treat Systems, R. Dvorin ... 827
Watts Nickel Plating Solutions, The Chemistry of, E. B. Saubestre ... 927
Wax and Plastic Models, Electroforming Copper on, R. H. Pasley ... 1228
Weinberg, M., H. Brown and R. J. Clauss
Corrosion Studies with Nickel-Chromium Plate
The Influence of the Porosity Pattern and Thickness of the Chromium Plate ... 144
Wesley, W. A.
Propinquity (Editorial) ... 799
What Electroless Nickel Can Do For You, R. J. Girard ... 1234
What's New About 1958?, F. T. Eddy (Editorial) ... 7
Wysong, R. D.
"Golden Opportunity, A"—The AES Golden Anniversary (Editorial) ... 899
Organic Finishing—"A General View" (Editorial) ... 211

Z

Zahn, E. A.
Industrial Flow Coat Painting Is Here to Stay ... 252
Zinc
Antimony Plating on Steel and Zinc, G. R. Schaer, W. H. Safranek and C. L. Faust ... 139
Zinc Die Castings, Improved Electroplated Finishes for, W. H. Safranek and C. L. Faust ... 1027